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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/751,309 | 12/31/2003 | Nagesh K. Vodrahalli | ITS.0008US (P17998) | 8796 |
| 21906 | 7590 | 07/27/2006 | EXAMINER | |
| TROP PRUNER & HU, PC 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631 | | | STAHL, MICHAEL J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,309

Applicant(s)

VODRAHALLI ET AL.

Examiner

Mike Stahl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

^{RE-}
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Prosecution Reopened

Pursuant to the “Notice of Panel Decision from Pre-Appeal Brief Review” (mailed July 10, 2006), the finality of the action mailed March 30, 2006 is withdrawn and prosecution is reopened. The present action is a supplemental final rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4, 8-10, 14-15, and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is indefinite because it refers to “said third wavelength” but no third wavelength is recited in parent claim 1 as amended.

Claim 4 is indefinite because it refers to “said at least two wavelengths” but its parent claim 1 as amended refers only to “at least one wavelength”.

Claim 8 is indefinite because it refers to “said reflector” but no reflector is recited in its parent claims 1 or 6 as amended.

Claim 9 is indefinite by dependence from claim 8, and also by trying to further limit “said reflector” which no longer exists in its parent claims 1, 6, or 8 as amended.

Claim 10 is indefinite by dependence from claim 8.

Claim 14 is indefinite because it refers to “said multiplexer” but no multiplexer is recited in parent claim 12 as amended.

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Claim 15 is indefinite by dependence from claim 14.

Claim 18 is indefinite because it refers to "said multiplexer" but no multiplexer is recited in parent claim 12 as amended.

Claims 19-20 are indefinite by dependence from claim 18.

As the scope of claims 3-4, 8-10, 14-15, and 18-20 is not clear, no further treatment of these claims with regard to the prior art will be made in this Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, 7, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fan et al. (US 6495813, previously cited). The text of this rejection is identical to that of the March 30, 2006 action.

Claim 1: Fan discloses a method comprising: demultiplexing at least one wavelength from a multiplexed optical signal; and detecting said demultiplexed wavelength using an L-shaped detector. The detector has an L-shaped body 43 (top view in fig. 7 or cross sectional views through each branch in figs. 6a-6b). The detector array structure includes a color filter 54

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(figs. 5, 6a, 6b) which demultiplexes light of one wavelength (green in the exemplary embodiment) and passes it to the detector.

Claim 6: Substrate 40 is regarded as an electrooptical bench.

Claim 7: A trench is provided in the bench to receive a portion of the L-shaped detector (figs. 5-7).

Claim 11: Electrical connections are formed from the bench to a portion of the L-shaped detector (fig. 5).

Claims 1-2 and 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al. (US 6979136).

Claim 1: Takagi discloses a method comprising: demultiplexing at least one wavelength λ_A from a multiplexed optical signal; and detecting said demultiplexed wavelength using an L-shaped detector (fig. 17). The detector has an L-shaped body including a detecting portion 2 integrated with a base 63 (figs. 20A-B; col. 5 ln. 61 – col. 6 ln. 2).

Claim 2: The method includes providing an angled reflector 5 in the path of the multiplexed signal to reflect light of a first wavelength (λ_B) to a first detector 3 and to pass light of a second wavelength (λ_A).

Claim 12: Takagi discloses an optical system (fig. 17) comprising: a waveguide 11; and a demultiplexer coupled to the waveguide to demultiplex at least one wavelength from a multiplexed optical signal on the waveguide, the demultiplexer including a photodetector 2 to detect the wavelength, wherein the demultiplexer includes an integrated reflector (part of component 5) and an L-shaped photodetector (figs. 20A-B), the photodetector to detect a

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wavelength (λ_A) passed by the reflector. As of the preparation date of this action, one dictionary (<http://dictionary.oed.com/>) defines “integrated” as “combined into a whole; united; undivided” or “uniting in one system several constituents previously regarded as separate”. In this case, the reflector is part of one system comprising the various components shown in fig. 17.

Claim 13: The demultiplexer includes an angled reflector 5 to reflect light of a first wavelength to a first detector and to pass light of a second wavelength.

Response to Arguments (June 13, 2006 Pre-Appeal Brief Review Request)

With regard to the rejection of claim 1 based on Fan, the remarks argue that there is no multiplexed optical signal in that reference. As of the preparation date of this action, one dictionary (<http://dictionary.oed.com/>) defines “multiplexed” as “subjected to the action of a multiplexer”. It further defines “multiplexer” as “a device which takes several signals and transmits them over a single channel without loss of their identity”. It defines “signal” as “a modulation of an electric current, electromagnetic wave, or the like by means of which information is conveyed from one place to another; the current or wave itself; also, a current or wave whose presence is regarded as conveying information about the source from which it comes” (emphasis added). Finally, it defines “channel” as “that through which information, news, trade, or the like passes; a medium of transmission, conveyance, or communication; means agency” (emphasis added). Therefore in the Fan device light coming from the object to be imaged may be regarded as a signal because it is a wave whose presence conveys information about the source from which it comes. At least a microlens element 57 (or 58) may be regarded as a multiplexer since it takes several signals and transmits them over a single channel without

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loss of their identity. The material of a microlens or any other transparent material between it and a filter may be regarded as a channel since it acts as a medium of transmission. Accordingly, the interpretation of various broad claim terms in the rejection based on Fan is believed to be consistent with conventional definitions.

As to the rejection of claim 12 based on Takagi, the obviousness rejection has been replaced by an anticipation rejection. Thus the arguments regarding Takagi are rendered moot.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). It is considered proper to make the present Office action final since the finality of the last action would still have been proper if it included the rejections made in this action.

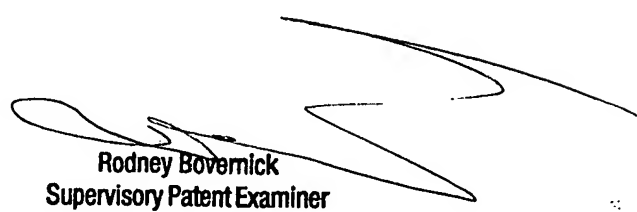
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Inquiries about this letter should be directed to Mike Stahl at 571-272-2360. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the technical support staff supervisor at 571-272-1626. Official communications which are eligible for submission by facsimile and which pertain to this application may be faxed to 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Stahl *MJS*
Patent Examiner
Art Unit 2874

July 16, 2006



Rodney Bovernick
Supervisory Patent Examiner
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